

## Claims

1. Biologically pure Serpens spp. strain HBL-112.
2. A pharmaceutical composition for preventing and/or treating Papillomatous Digital Dermatitis in ruminants comprising a therapeutically effective amount of Serpens spp. bacteria or Serpens spp. bacterin and/or an immunologically active portion thereof and/or an antigenic epitope cross-reactive with Serpens spp. and a veterinerally acceptable diluent or a carrier.
3. The composition of claim 2 wherein said ruminant has symptoms of Papillomatous Digital Dermatitis.
4. The composition of claim 2 wherein said ruminant has no symptoms of Papillomatous Digital Dermatitis.
5. The composition of claim 2 comprising Serpens spp. strain HBL-112 or Serpens spp. strain HBL-112 bacterin.
6. The composition of claim 2 comprising Serpens flexibilis or Serpens flexibilis bacterin.
7. A method of preventing and/or treating Papillomatous Digital Dermatitis in ruminants comprising administering to the ruminant a therapeutically effective amount of Serpens spp. bacteria or Serpens spp. bacterin and/or an immunologically active portion thereof and/or an antigenic epitope cross-reactive with Serpens spp..
8. The method of claim 7 wherein said ruminant has symptoms of Papillomatous Digital Dermatitis.
9. The method of claim 7 wherein said ruminant has no symptoms of Papillomatous Digital Dermatitis.
10. The method of claim 7 wherein Serpens spp. strain HBL-

112 or Serpens spp. strain HBL-112 bacterin is administered to said ruminant.

11. The method of claim 7 wherein Serpens flexibilis or Serpens flexibilis bacterin is administered to said ruminant.

12. A method for determining the presence of PDD antibodies in a sample of ruminant serum comprising contacting said sample with an antigen selected from the group consisting of bacteria or bacterin of the Serpens genus or an immunologically active portion thereof and/or an antigenic epitope cross-reactive with Serpens spp. and detecting antibodies in said sample which bind to said antigen.

13. A method for determining the presence of PDD antibodies in a sample of ruminant serum comprising contacting the sample with a solution containing at least one binding partner capable of binding to the Serpens spp. strain HBL-112 or an immunologically active portion thereof and/or an antigenic epitope cross-reactive with Serpens spp. strain HBL-112, removing unbound binding partner and determining the presence of bound binding partner in the sample.

14. A method for determining the presence of anti-Serpens spp. antibodies in a ruminant comprising contacting Serpens spp. antigen with a serum sample from a ruminant, adding an anti-ruminant antibody having an enzyme attached, and adding a substrate with which said enzyme can convert to a readily measured product.

15. A method for determining the presence of PDD antigen in a sample of ruminant serum comprising contacting said sample

with an antibody selected from the group comprising the Serpens genus and detecting antigen in said sample which bind to said antibody.

16. A diagnostic kit for use in a method according to claim 14 for determination of the presence of PDD antibodies said kit comprising antigen and one or more binding partners.

17. The kit of claim 16 wherein reagents for sample preparation and reagents for detection of bound antibody are included.

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